

Amendments to the Claims

Please cancel Claims 1-5, 10-13 and 16-21 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 6-9, 14, 15, 22-24 and 26, and add Claims 27 and 28 to read as follows.

Claims 1-5 (cancelled)

6. (Currently amended) The inkjet printhead according to claim 5 7, wherein the plural colors include cyan, magenta, yellow, and black.

7. (Currently amended) ~~The~~ An inkjet printhead ~~according to claim 5;~~
having an array of printing elements, where first and second printing elements which
discharge relatively different amounts of ink are arranged on the same array in a
predetermined direction, comprising:

storage means for sequentially storing print data that is serially inputted;
holding means for holding the print data stored in said storage means; and
a driving control circuit for driving respective printing elements in
accordance with a selection signal indicative of which of the first or second printing
element is to be driven, the print data held by said holding means, and a driving signal
indicative of a driving period.

wherein the print data is inputted to either the first or second printing element,

wherein the array of printing elements is provided for at least two colors so as to enable color printing using plural colors, and

wherein the selection signal is separately inputted to the at least two arrays of printing elements.

8. (Currently amended) ~~The~~ An inkjet printhead according to claim 5 having an array of printing elements, where first and second printing elements which discharge relatively different amounts of ink are arranged on the same array in a predetermined direction, comprising:

storage means for sequentially storing print data that is serially inputted;

holding means for holding the print data stored in said storage means; and

a driving control circuit for driving respective printing elements in accordance with a selection signal indicative of which of the first or second printing element is to be driven, the print data held by said holding means, and a driving signal indicative of a driving period,

wherein the print data is inputted to either the first or second printing element,

wherein the array of printing elements is provided for at least two colors so as to enable color printing using plural colors, and

wherein the selection signal is commonly inputted to the at least two arrays of printing elements.

9. (Currently amended) The inkjet printhead according to claim 7, wherein the printing elements perform printing by utilizing heat energy.

Claims 10-13 (cancelled)

14. (Currently amended) ~~The~~ A driving method of an inkjet printhead ~~according to claim 10~~ having an array of printing elements, where first and second printing elements which discharge relatively different amounts of ink are arranged on the same array in a predetermined direction, said method comprising:

a data input step of serially inputting print data for the first or second printing element;

a storing step of sequentially storing the inputted print data;

a holding step of holding the stored print data;

a selecting step of inputting a selection signal, indicative of which of the first or second printing element is to be driven;

a driving designation step of inputting a driving signal indicative of a driving period; and

a driving control step of driving respective printing elements in accordance with the print data held, the selection signal, and the driving signal,

wherein the printhead has the array of printing elements for at least two colors so as to enable color printing using plural colors, and

in said selecting step, the selection signal is separately inputted to the at least two arrays of printing elements.

15. (Currently amended) ~~The~~ A driving method of an inkjet printhead according to claim 10 having an array of printing elements, where first and second printing elements which discharge relatively different amounts of ink are arranged on the same array in a predetermined direction, said method comprising:

a data input step of serially inputting print data for the first or second printing element;

a storing step of sequentially storing the inputted print data;

a holding step of holding the stored print data;

a selecting step of inputting a selection signal, indicative of which of the first or second printing element is to be driven;

a driving designation step of inputting a driving signal indicative of a driving period; and

a driving control step of driving respective printing elements in accordance with the print data held, the selection signal, and the driving signal,

wherein the printhead has the array of printing elements for at least two colors so as to enable color printing using plural colors, and

in said selecting step, the selection signal is commonly inputted to the at least two arrays of printing elements.

Claims 16-21 (cancelled)

22. (Currently amended) A substrate for an inkjet printhead which discharges ink by utilizing heat energy generated by a plurality of heaters incorporated in the substrate, ~~said the~~ heaters divided into m ~~numbers of~~ groups, each having n ~~numbers of~~ heaters, said substrate comprising:

m x n ~~numbers of~~ driving circuits, provided in correspondence with each of the heaters, for driving each of the heaters;

a selection data transfer circuit for separating input data into image data for driving m ~~numbers of~~ heaters and a selection signal for selecting m ~~numbers of~~ groups and n ~~numbers of~~ heaters constituting each group;

a holding circuit for inputting the image data for driving the m ~~numbers of~~ heaters, received from said selection data transfer circuit, to supply the image data in units of each group to the heaters constituting each of the m ~~numbers of~~ groups; and

a selection data holding circuit for inputting the selection signal for selecting the m ~~numbers of~~ groups and n ~~numbers of~~ heaters constituting each group, received from said selection data transfer circuit, to select the heaters to be driven via said driving circuits,

wherein the n ~~numbers of~~ heaters are arranged opposite to each other in a zigzag manner with an ink supplying orifice ~~on~~ at the center, and said selection data holding circuit selects one of the n ~~numbers of~~ heaters constituting each group.

23. (Currently amended) The substrate for an inkjet printhead according to claim 22, wherein the n ~~numbers of~~ heaters have an equal size, and amounts of ink discharged from the heaters by generated heat energy ~~generated~~ are equal.

24. (Currently amended) The substrate for an inkjet printhead according to claim 22, wherein the n ~~number of~~ heaters have different sizes, and amounts of ink discharged from the heaters by generated heat energy ~~generated~~ are different.

25. (Original) The substrate for an inkjet printhead according to claim 22, wherein each of said driving circuits is configured with a DMOS transistor.

26. (Currently amended) An inkjet printhead employing a substrate for an inkjet printhead which discharges ink by utilizing heat energy generated by a plurality of heaters incorporated in the substrate, ~~said the~~ heaters divided into m ~~number of~~ groups, each having n ~~number of~~ heaters, said substrate comprising:

m x n ~~number of~~ driving circuits, provided in correspondence with each of the heaters, for driving each of the heaters;

a selection data transfer circuit for separating input data into image data for driving m ~~number of~~ heaters and a selection signal for selecting m ~~number of~~ groups and n ~~number of~~ heaters constituting each group;

a holding circuit for inputting the image data for driving the m ~~number of~~ heaters, received from said selection data transfer circuit, to supply the image data in units of each group to the heaters constituting each of the m ~~number of~~ groups; and

a selection data holding circuit for inputting the selection signal for selecting the m ~~number of~~ groups and n ~~number of~~ heaters constituting each group, received from said selection data transfer circuit, to select the heaters to be driven via said driving circuits,

wherein the n ~~number of~~ heaters are arranged opposite to each other in a zigzag manner with an ink supplying orifice ~~on~~ at the center, and said selection data holding circuit selects one of the n ~~number of~~ heaters constituting each group.

27. (New) The inkjet printhead according to claim 8, wherein the plural colors include cyan, magenta, yellow, and black.

28. (New) The inkjet printhead according to claim 8, wherein the printing elements perform printing by utilizing heat energy.